

Front Street Improvement Summary

Wilmington, North Carolina

October, 2009

General Background

Two block utility replacement project combined with streetscape elements. The above ground improvements are a continuation of the efforts started during the two-way traffic conversion of Front Street. T.A. Loving was awarded the construction contract after extensive design work was completed in a partnership between the City of Wilmington, Cape Fear Public Utility Authority (CFPUA) and the downtown stakeholders.

Project Area: North Front Street between Market and Chestnut Street (000 and 100 blocks) including intersections. The 000 block is located within the Historic District.

Project Staging: Project consists of 3 stages. In general:

- 1) Market Street up to Princess Street;
- 2) Princess Street to Chestnut Street;
- 3) across the Chestnut Street intersection.

Traffic Control and Pedestrian access will be provided at all times. See Road Closures below.

Project Scope: Complete renovation from face of building to face of building of all surface elements including sidewalk and street pavements, curbing, crosswalks, benches, trash cans, signs, lighting, traffic signals, and plantings. Underground utility replacement including full water and sewer mains and building connections, electrical conduits.

Construction Schedule

Construction Period: 8 months anticipated

Construction Start: January 4, 2010

Road Closures: One block at a time and only ½ of an intersection at a time.

Pedestrian Access: To be maintained to Front Street addresses at all times

Hours of Construction: Monday through Friday from 6am to 10pm. Evening and weekend work only by special permission.

Anticipated Work Sequences: a) Traffic control, layout, fencing

b) Demolition, Utility and Curb work

c) Road and Sidewalk replacement

d) Brick band, street furnishings, trees

Site Security: Temporary 6 ft chain link fencing with mesh curtains, traffic signs, street barricades, night surveillance

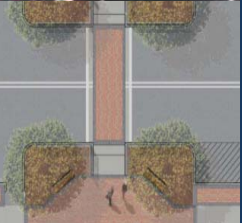
Temporary Facilities: business and parking signs, pedestrian walkways, interim lighting

Traffic and Parking

Traffic Signalization: Replace existing traffic and pedestrian signals with new decorative black traffic poles with mast arms at the Market Street intersection.

Street Section: Replace 12 foot travel lane and 9 foot parking lane with 11.5 foot travel lane with 8 foot wide by 21 foot long parking lanes.

Bicycle Traffic: Increase use of bicycles and Bicycle Routes 5 and 3; painted sharrows in travel lanes of Front Street will indicate roadway is to be shared with bicycles. Bicycle parking will be provided in multiple locations.



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Streetscape Elements

Theme: Visually traditional and sustainable. Site furnishings will be historic in character and will be painted black, including sign posts. Along with decorative brick in the sidewalk and crosswalks. Re-use of existing Augusta brick and granite curbing within the Market Street intersection, use of new wood-like slats in the benches, tree grate castings that are 100% recycled. Salvage of brick pavers, parking meters, granite curbing and light fixtures for use within the City.

Light Fixtures: Existing lights are a mixture of high pressure sodium (hps) acorn style fixtures and cobra head fixtures mounted on assorted pole types and provide inconsistent light distribution. New poles and hps acorn style fixtures will provide an average maintained luminance of 1.0 foot-candle uniformly down the street. Double headed fixtures will be provided at the intersections. Banner arms will also be provided at intersections. Holiday and event electrical outlets will be provided. New security cameras will be reaffixed to new light poles.

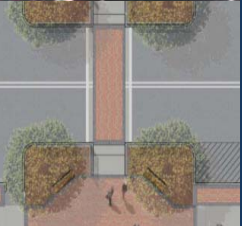
Sidewalk: Add 1.5 feet to existing sidewalk width to create 9 feet of concrete plus 4' of brick pavers for a 13 foot sidewalk. Existing pavements are a mixture of concrete, dry laid brick, mortared brick, and stamped and coated asphalt designed to look like brick. New sidewalks will be scored concrete with a 4 foot wide brick band. The brick band will include street trees and incorporate site furnishings and utilities such as meter boxes, street lights, waste receptacles, parking pay stations, etc.

Pedestrian Crosswalks: 8 foot wide brick band flanked by a 1 foot concrete band, and 8-inch line of white thermoplastic paint. Pedestrian crosswalks in the Front/Market Street intersection are dry laid Augusta brick, which is an historic material and will be re-used for the Front Street and Market Street intersection.

Mid Block Crossings and Plazas: Existing mid block crossings will be enlarged to include small plazas with benches and plantings. Plazas adjacent to the mid block crossings will feature benches, plantings, and brick pavers that extend into the concrete sidewalk zone to visually identify the location of the crossings and seating areas. Special features include expanded landscaping, the existing mill stone and new wayfinding maps to replace the map table located outside of the post office.

Curbing: Existing curbing consists primarily of vertical concrete with small amounts of granite. New curbing will consist of new and reused granite curbing from the Market Street intersection up to the Chestnut Street intersection

. The roof drain downspouts which pierce the curbing are constructed of both steel and PVC. Downspouts will be formed into the new curbing.



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Benches: No existing benches. Add new 4 foot and 6 foot wooden-like benches with iron ornamental supports and recycled plastic slats. To be placed primarily at mid-block plaza areas.

Parking Meters: Existing dual head manual parking meters will be replaced by automated pay stations at two per block. Pay stations will enable patrons to pre-pay for a specified amount of time which will be printed on a paper ticket to be displayed on the dashboard of the car. Pay stations will be solar and wireless. Existing manual meters will be removed and returned to the City.

Bicycle Racks: Existing single post racks designed to hold two bicycles are limited. These posts will be relocated within the new streetscape work and will be supplemented by three larger bicycle banks designed to hold multiple bicycles.

Street Trees: Many of the existing trees have health issues and are a maintenance concern to the City. The following replacement street tree species were agreed upon with the Parks department: Highrise Live Oak (*Quercus virginiana* 'QVTIA', Alee Elm (*Ulmus parvifolia* 'Emer II'), and Green Vase Zelkova (*Zelkova serrata* 'Green Vase'). Tree selection is based on ability to withstand urban conditions, upright habit, and filtered shade.

Irrigation Meters: Project to install metered irrigation hook ups at each mid-block plaza (4) and at select corners within the intersections. These meters require above ground back-flow preventers with enclosures.

Tree Grates: Existing street trees are located in open pits with soil at the surface adjacent to the sidewalk. 4 foot square cast iron tree grates are recommended to protect the root system of the new street trees and also to provide additional useable walking area within the sidewalk zone. The grates have 3/8 inch openings to be filled with rice stone to reduce debris collection.

Existing street signs: To be removed and replaced as appropriate. Existing U-channel posts will be replaced by decorative black octagonal poles where possible. The City will fabricate signs and work with contractor to install in proper locations provided by the City.

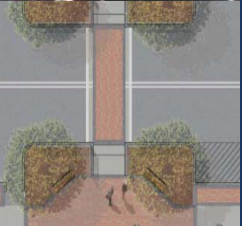
Existing street name signs: Street name signs will be provided on top of signal mast arms and street intersections. City is looking at their new standard and old historic signs.

Existing Thresholds: The contractor shall protect tile, terrazzo, and other special pavements located adjacent to the sidewalk areas within door thresholds, etc.

Temporary construction signage: To provide traffic controls, pedestrian travel areas, and notices that all businesses are open during construction.

Graphic Map: Downtown wayfinding map to be included within a black pole frame and located in the mid-block plaza adjacent to the Post Office.

Gum and cigarettes : Public/private education campaigns and select City services under development.



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Utilities

Water and Sanitary Sewer Infrastructure: Owned and operated by the CFPUA. The CFPUA has a 16-inch water main located in N. Front Street, 8-inch water mains located in all intersections. The water mains are connected in a grid configuration. The CFPUA also has a 6-inch sanitary sewer in N. Front Street, a 8-inch sanitary sewer in the Chestnut Street and Princess Street Intersections, a 6-inch and a 10-inch sanitary sewer in the Market Street Intersection. All water and sanitary sewer mains and services up to and including the meter boxes and cleanouts will be replaced. Fire hydrants will also be replaced. Due to the nature of utility construction, some of the utility work may extend beyond the boundary of the streetscape elements.

New water mains will be installed parallel to the existing water mains which will allow the existing water mains to remain in service during construction. Shut downs will only be required while making connections. The sanitary sewer and service laterals will be replaced in place.

Stormwater: Limited replacements are required, two catch basins will be removed, and manholes and catch basin rim elevations will be adjusted to the new grades.

Other utilities: Other utilities impacted by the project include the underground telephone circuits, underground gas service, street lighting facilities, traffic signals and private services leading from/to the respective distribution/collection system mains for each of the aforementioned utilities.

Telephone: Owned by AT&T and requires coordination with AT&T during the entire construction process as the telephone conduit extends through the entire project area. Very old ducts yet AT&T has no plans to rehabilitate.

Gas: Owned by Piedmont Natural Gas Company. A number of the gas mains and services within the project area have been abandoned by Piedmont Natural Gas.

Electrical Equipment: Currently fed from a pole mounted electrical cabinet at Front and Princess Streets. This cabinet will be replaced by a single pedestal cabinet in a relocated position within that intersection. Electrical service will be moved by Progress Energy via new underground conduit and cables. Traffic Signals are independently fed from pole mounted cabinets. New underground cable and conduit will feed the new traffic cabinet and electrical equipment from the new pedestal cabinet.

Traffic Signal Poles: Also used by Progress Energy (PE) as electrical poles. Responsible party for removing the poles will be determined in the field during construction.

Private utility services: Include the portion of the water, sanitary sewer, gas, and telephone service lines between the meter box, cleanout, or demarcation point and the building face (continuing on into the building). These services are owned and maintained by the property owners. Maintenance and repair services related to the water and sewer services are typically provided by a plumbing contractor. Maintenance and repair services related to the gas and telephone service lines are typically provided by specialty contractors.